

into the air, the balance continued to swarm about on the ground or climb vegetation until after sundown, when nearly all of those that had not participated in the nuptial flight gradually re-entered the nest. The nuptial flight ceased after sundown and half an hour later there were no ants in the air or on the ground.

During the nuptial flight on April 8th, while I was observing the activities of the ants around the nest, a mated pair came out of the air and dropped to the ground directly in front of me, and seeing that they were alive, and that their genital segments were still joined, I collected them in that position and placed them in the cyanide vial, where they remained in copula even unto death. This mated pair has been deposited in the collection of the Academy of Natural Sciences of Philadelphia.

Contributions to the Knowledge of Chinese Coccinellidae. VI. Occurrence of *Perilitus coccinellae* (Schrank), a Parasite of Adult Coccinellidae, in Yunnan (Hymenoptera, Braconidae)

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Unlike Diptera, the Hymenoptera contains only a limited number of imaginal parasites. The best known is undoubtedly the Euphorine Braconid, *Perilitus coccinellae* (Schrank) (= *Dinocampus coccinellae*), which parasitizes various species of adult Coccinellidae.

The distribution of this species is cosmopolitan. Balduf* has summarized the literature on this subject and found it recorded from New Zealand, Europe, North America and Hawaii. He concluded that "it occurs in many countries of at least the north temperate zone, and is perhaps generally distributed in most of this area."

Under the name *Dinocampus terminatus* (Nees), the species was previously reported from Japan. What appears to be the first record of its occurrence in continental Asia was made in

* Balduf, W. V. The bionomics of *Dinocampus coccinellae* Schrank. Ann. Ent. Soc. Am. 19: 466, 1926.

April, 1939, when a cocoon, which gave rise to an adult in due time, was collected in Kunming, Yunnan. Subsequently another cocoon was brought back from Küchin, about 120 kilometers northeast of Kunming. Altogether eleven cases came under observation from 1939 to 1942, the other nine records being all from the vicinity of the Kunming city, which is situated on Lat. N. 25° 3' 21" and has an altitude of 1922.1 meters. Its climate is therefore decidedly temperate.

In six of these cases, *Coccinella septempunctata* L. served as the host; in four cases, the host was *Adonia variegata* Goeze; and in one case, *Macronaemia hauseri* Weise. The last named is recorded for the first time in this connection, it having been described from Yunnan in 1905. The first parasitized host was collected in April and the cocoon was formed on the stopper of the vial in which the beetle had been confined. All the remaining cases were taken from the field with the host sitting over the parasite cocoon in the characteristic fashion. Parasitized hosts were collected from April to August, but at no time of the year were they abundant. The Kunming specimens were collected on the leaves of *Artemisia strongylocephala* var. *sinensis* Pamp. and *Cirsium chloropis* Petr., and the single Küchin specimen was found on the foliage of *Daucus carota* L.

On July 13, a specimen of *C. septempunctata*, collected on June 30, was confined with a newly emerged parasite, which was seen to take an immediate interest in the prospective host, pursuing it actively and attempting to oviposit. After forty-eight hours, the beetle was isolated. On Aug. 11, the parasite larva emerged and constructed its cocoon on the cotton stopper. Two weeks later, on Aug. 25, the adult parasite emerged and lived for 28 days on honey and water, dying on Sept. 22. The host remained alive for a few days after the issuing of the parasite. Although this host was not laboratory bred, the fact that it did not give rise to a parasite cocoon two weeks after capture seems to indicate that the experimental parasitization had been successful. A laboratory bred specimen of *Epilachna* n. sp. was offered a freshly emerged parasite, but it did not show any interest in it. Half an hour later, a *C. 7-punctata* was

substituted, and very soon afterwards, the parasite made several attempts at oviposition. The beetle appeared quite excited and at times ran about rapidly. At other times, when it remained stationary, it would raise its hind leg in attempting to brush its annoyer away. Three other hosts, *Coelophora biplagiata* Swartz, *Chilomenes sexmaculata* F. and *Halysia san-scrita* Muls., were tried but all resulted in unsuccessful parasitization.

A New Genus of Scorpions in the Southwest

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In an examination of a series of scorpions collected by the senior author, a number of interesting forms was found. Among these were forms described in this paper as the new genus *Diplops*. The combination of characters in this genus raises some doubts as to its family relationship, though it is most nearly encompassed by the family Chactidae to which it is tentatively assigned.

This family was formerly represented in the United States by one species, *Broteas alleni* Wood in California. *Diplops* differs from *Broteas* in the possession of a series of diagonally arranged rows of teeth in the chela in place of one continuous row; in the absence of teeth on the lower margin of the movable finger of the chelicera, and in the characters of the pectines. The types are divided between the Zoological Museum of the University of Utah and the Academy of Natural Sciences of Philadelphia.

Diplops new genus

This genus is characterized by a pair of lateral eyes, legs furnished with a pair of pedal spurs between the tarsus and pro-tarsus, a brush-like row of long slender bristles on the tarsus; small, narrow, slightly crescentic tracheal slits; absence of teeth on the lower margin of the movable finger of the chelicera.